

CLAIMS

1. A method for forming a closure and security device (22) comprising a screw stopper (10A) and a security capsule (16A) and applying it to containers provided with an externally threaded circular mouth, the method comprising

5 the following steps:

connecting to a screw stopper (10), or to a stopper destined to become a screw stopper once applied to the container (20), a capsule-forming foil (12) in such a manner as to provide the stopper (10) with a skirt (16) projecting by a determined portion from the free edge of the stopper (10), to obtain a stopper-skirt combination (18; 18A; 18B);

10 applying the stopper-skirt combination (18; 18A; 18B) to the mouth of the relative container (20);

15 ...making the skirt (16) rigid with the container (20) by known capsule techniques, depending on the type of foil used, to obtain a stopper-capsule (22).

2. A method as claimed in claim 1, wherein a metal stopper (10) is used, the step consisting of applying the stopper-skirt combination (18; 18A; 18B) to the mouth of the container (20) comprising rolling the stopper (10) to form on its lateral wall a thread matching the external thread on the mouth of the container (20).

20 3. A method as claimed in claim 1, wherein a plastic stopper already provided with an internal thread is used, the step consisting of applying the stopper-skirt combination (18; 18A; 18B) to the mouth of the relative container (20) comprising screwing the stopper onto the mouth of this latter.

25 4. A method as claimed in claim 1, wherein the foil used to form the skirt is in the form of substantially trapezoidal foil pieces (12).

5. A method as claimed in claim 1, wherein the foil used to form the skirt (16) is in the form of tubular elements.

30 6. A method as claimed in claim 1, wherein the foil used to form the skirt (16) is metallic.

7. A method as claimed in claim 1, wherein the foil used to form the skirt (16) is of a heat-shrinkable plastic material.

8. A method as claimed in claim 6, wherein the skirt (16) and stopper (10) are made mutually rigid by gluing.

35 9. A method as claimed in claim 7, wherein the skirt (16) and stopper (10)

are made mutually rigid by heat-shrinkage and/or gluing.

10. A method as claimed in claim 7, wherein the step consisting of making the skirt (16) rigid with the container (20) comprises heating the skirt (16) to cause it to heat-shrink.

5 11. A method as claimed in claim 6, wherein the step consisting of making the skirt rigid with the container comprises rolling.

12. A method as claimed in claim 6, wherein the foil (12) is of aluminium or tin.

13. A method as claimed in claim 6, wherein the foil (12) is a polylaminate.

10 14. A method as claimed in claim 1, wherein the foil (12) used presents means (24) which, with the closure and security device (22) applied to the container (20), enable the relative capsule (16A) to be torn as a result of or prior to the unscrewing of the screw stopper (10A).

15 15. A method as claimed in claim 14, wherein the means which enable the capsule (16A) to be torn consist of using a foil (12) of a thickness which enables the capsule (16A) to tear when the screw stopper (10A) is unscrewed.

16. A method as claimed in claim 14, wherein the means which enable the capsule (16A) to be torn consist of using a foil (12) presenting one or more weakening lines or zones (24), in correspondence with which tearing of the capsule (16A) takes place when the stopper (10A) is unscrewed.

20 17. A closure and security device (22) for containers (20) provided with an externally threaded circular mouth, comprising a screw stopper (10A) (without ring) and a capsule (16A) which is made rigid both with the screw stopper (10A) and with the adjacent part of the outer surface of the bottle (20) to obtain the stopper-capsule device (22), the capsule (16A) comprising means (24) which enable it to be torn as a result of or prior to the unscrewing of the screw stopper (10A).

18. A stopper-capsule device (22) as claimed in claim 17, wherein the screw stopper (10A) is of metal.

30 19. A stopper-capsule device (22) as claimed in claim 17, wherein the screw stopper (10A) is of plastic material.

20. A stopper-capsule device (22) as claimed in claim 17, wherein the capsule (16A) is of metal foil.

35 21. A stopper-capsule device (22) as claimed in claim 20, wherein the metal foil is of polylaminate.

22. A stopper-capsule device (22) as claimed in claim 17, wherein the capsule (16A) is of plastic foil.
23. A stopper-capsule device (22) as claimed in claim 17, wherein the means which enable the capsule (16A) to be torn as a result of unscrewing the screw stopper (10A) consist of making the capsule (16A) of a thickness which enables it to tear as a result of unscrewing the screw stopper (10A).
5
24. A stopper-capsule device (22) as claimed in claim 17, wherein the means which enable the capsule (16A) to be torn as a result of unscrewing the screw stopper (10A) comprise one or more weakening lines or zones (24) provided in the capsule (16A), and in correspondence with which (24) this latter (16A) tears as a result of unscrewing the screw stopper (10A).
10
25. A stopper-capsule device (22) as claimed in claim 24, wherein the weakening lines or zones are obtained by a series of through perforations (24) in positions in which the unscrewing of the screw stopper (10A) causes tearing
15 of the capsule (16A).
26. A stopper-capsule device (22) as claimed in claim 17, wherein the means which enable the capsule (16A) to be torn before unscrewing the screw stopper (10A) comprise a pull tab.
27. A stopper-capsule device (22) as claimed in claim 17, wherein the
20 capsule (16A) is external to the screw stopper (10A).
28. A stopper-capsule device (22) as claimed in claim 17, wherein the capsule (16A) is disposed between the screw stopper and the container (20).
29. A stopper-capsule device (22) as claimed in claim 17, wherein the capsule (16A) is provided with a headpiece (14).
30. A combination (18; 18A; 18B) comprising a screw stopper (10), or
25 destined to become a screw stopper, for closing containers (20) provided with an externally threaded circular mouth, and a skirt (16) made rigid with the lateral surface of the stopper (10) and projecting for a determined portion from the free edge of this latter (10), the skirt (16) being made rigid with the container (20) once the stopper (10) of the stopper-skirt combination (18; 18A;
30 18B) has been screwed onto the mouth of the container (20), to form a stopper-capsule device in accordance with claim 16.
31. A stopper-capsule device (18; 18A; 18B) as claimed in claim 30, wherein the stopper (10) is of metal.
- 35 32. A stopper-capsule device (18; 18A; 18B) as claimed in claim 30, wherein

the stopper (10) is of plastic material.

33. A stopper-capsule device (18; 18A; 18B) as claimed in claim 30, wherein the skirt (16) is of metal foil.

34. A stopper-capsule device (18; 18A; 18B) as claimed in claim 33, wherein
5 the foil is of polylaminate.

35. An stopper-skirt combination (18; 18A; 18B) as claimed in claim 30, wherein means (24) are already provided in the skirt (16) to enable tearing of the capsule (16A) of the stopper-capsule device claimed in claim 16 and obtainable from the stopper-skirt combination (18; 18A; 18B).

10 36. A stopper-skirt combination (18; 18A; 18B) as claimed in claim 35, wherein the means which enable the capsule (16A) to be torn consist of making the skirt (16) of a thickness which enables the capsule (16A) to tear as a result of unscrewing the screw stopper (10A).

15 37. A stopper-skirt combination (18; 18A; 18B) as claimed in claim 35, wherein the means which enable the capsule (16A) to be torn comprise one or more weakening lines or zones (24) provided in the skirt (16).

38. A stopper-skirt combination (18; 18A; 18B) as claimed in claim 37, wherein the weakening lines or zones in the skirt (16) are obtained by a series of through perforations (24).

20 39. A stopper-skirt combination (18; 18A; 18B) as claimed in claim 35, wherein the means which enable the capsule (16A) to be torn comprise a pull tab already provided in the skirt (16).

40. A stopper-skirt combination (18; 18A) as claimed in claim 30, wherein the skirt (16) is external to the stopper (10).

25 41. A stopper-skirt combination (18B) as claimed in claim 30, wherein the skirt is applied to the interior of the stopper (10).

42. A stopper-skirt combination (18A) as claimed in claim 40, wherein the skirt (16) is provided with a headpiece (14).